

# CATEGORY 1

## REGULATOR INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9706040174 DOC. DATE: 97/05/22 NOTARIZED: NO DOCKET #  
FACIL: 50-244 Robert Emmet Ginna Nuclear Plant, Unit 1, Rochester G 05000244  
AUTH. NAME AUTHOR AFFILIATION  
WIDAY, J.A. Rochester Gas & Electric Corp.  
RECIP. NAME RECIPIENT AFFILIATION

Rev. 5/20/97 *[Signature]*

SUBJECT: Revised EOPs, including procedures index, rev 5 to ATT-15.0,  
rev 3 to ATT-15.2, rev 3 to AP-ELEC.3, rev 13 to ECA-0.1 & rev  
9 to ECA-0.2.W/970522 ltr.

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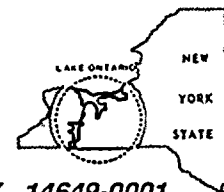
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JOSEPH A. WIDAY  
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Ginna Nuclear Plant

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May 22, 1997

U.S. Nuclear Regulatory Commission  
Document Control Desk  
Attn: Guy S. Vissing  
Project Directorate I-1  
Washington, D.C. 20555

Subject: Emergency Operating Procedures  
R.E. Ginna Nuclear Power Plant  
Docket No. 50-244

Dear Mr. Vissing:

As requested, enclosed are Ginna Station Emergency Operating Procedures.

Very truly yours,

*Joseph A. Widay*  
Joseph A. Widay

JAW/jdw

xc: U.S. Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406-1415

Ginna USNRC Senior Resident Inspector

9706040174 970522  
PDR ADDCK 05000244  
P PDR

Enclosure(s):

ATT Index  
AP Index  
ECA Index 030056  
ATT-15.0, Rev. 5  
ATT-15.2, Rev. 3

AP-ELEC.3, Rev. 3  
ECA-0.1, Rev. 13  
ECA-0.2, Rev. 9

A0021/



REPORT NO. 01  
REPORT: NPSPO200  
DOC TYPE: PRATT

GINNA NUCLEAR POWER PLANT  
PROCEDURES INDEX  
EOP ATTACHMENTS

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PARAMETERS: DOC TYPES - PRAR PRATT PRFR

STATUS:

5 YEARS ONLY:

PROCEDURE NUMBER	PROCEDURE TITLE	REV	EFFECT DATE	LAST REVIEW	NEXT REVIEW	ST
ATT-1.0	ATTACHMENT AT POWER CCW ALIGNMENT	001	07/26/94	02/19/93	02/19/98	EF
ATT-2.0	ATTACHMENT AUX BLDG SW	003	07/26/94	04/21/93	04/21/98	EF
ATT-2.1	ATTACHMENT MIN SW	003	03/24/97	03/26/93	03/26/98	EF
ATT-2.2	ATTACHMENT SW ISOLATION	003	07/26/94	07/29/93	07/29/98	EF
ATT-2.3	ATTACHMENT SW LOADS IN CMNT	003	01/25/95	01/25/95	01/25/00	EF
ATT-3.0	ATTACHMENT CI/CVI	003	07/26/94	02/11/94	02/11/99	EF
ATT-3.1	ATTACHMENT CMNT CLOSURE	002	07/26/94	02/11/94	02/11/99	EF
ATT-4.0	ATTACHMENT CMNT RECIRC FANS	003	07/26/94	06/17/93	06/17/98	EF
ATT-5.0	ATTACHMENT COND TO S/G	004	01/25/95	01/25/95	01/25/00	EF
ATT-5.1	ATTACHMENT SAFW	005	09/26/96	11/08/94	11/08/99	EF
ATT-5.2	ATTACHMENT FIRE WATER COOLING TO TDAFW PUMP	002	10/26/95	03/04/94	03/04/99	EF
ATT-6.0	ATTACHMENT COND VACUUM	003	12/18/96	03/26/93	03/26/98	EF
ATT-7.0	ATTACHMENT CR EVAC	002	12/18/96	03/26/93	03/26/98	EF
ATT-8.0	ATTACHMENT DC LOADS	003	07/26/94	01/26/94	01/26/99	EF
ATT-8.1	ATTACHMENT D/G STOP	004	11/03/95	02/19/93	02/19/98	EF
ATT-8.2	ATTACHMENT GEN DEGAS	005	07/26/94	02/11/94	02/11/99	EF
ATT-8.3	ATTACHMENT NONVITAL	003	07/26/94	02/19/93	02/19/98	EF
ATT-8.4	ATTACHMENT SI/UV	003	07/26/94	02/19/93	02/19/98	EF
ATT-9.0	ATTACHMENT LETDOWN	005	07/26/94	01/26/94	01/26/99	EF
ATT-9.1	ATTACHMENT EXCESS L/D	002	07/26/94	02/03/93	02/03/98	EF
ATT-10.0	ATTACHMENT FAULTED S/G	005	10/03/96	06/11/93	06/11/98	EF
ATT-11.0	ATTACHMENT IA CONCERNS	001	07/26/94	07/02/93	07/02/98	EF
ATT-11.1	ATTACHMENT IA SUPPLY	001	07/26/94	07/02/93	07/02/98	EF
ATT-12.0	ATTACHMENT N2 PORVS	003	03/24/97	02/03/93	02/03/98	EF

*Superseded pages for  
Rev - EOP's  
50-244  
9706040174  
5/22/97*

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 REPORT: NPS0200  
 DOC TYPE: PRATT

GINNA NUCLEAR POWER PLANT  
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PARAMETERS: DOC TYPES - PRAR . PRATT PRFR

STATUS:

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PROCEDURE NUMBER	PROCEDURE TITLE	REV	EFFECT DATE	LAST REVIEW	NEXT REVIEW	ST
ATT-13.0	ATTACHMENT NC	002	07/26/94	02/03/93	02/03/98	EF
ATT-14.0	ATTACHMENT NORMAL RHR COOLING	001	07/26/94	10/19/94	10/19/99	EF
ATT-14.1	ATTACHMENT RHR COOL	003	07/26/94	03/06/93	03/06/98	EF
ATT-14.2	ATTACHMENT RHR ISOL	001	07/26/94	03/06/93	03/06/98	EF
ATT-14.3	ATTACHMENT RHR NPSH	001	07/26/94	01/26/94	01/26/99	EF
ATT-14.4	ATTACHMENT RHR SAMPLE	001	07/26/94	01/26/94	01/26/99	EF
ATT-14.5	ATTACHMENT RHR SYSTEM	002	07/26/94	02/03/93	02/03/98	EF
ATT-14.6	ATTACHMENT RHR PRESS REDUCTION	000	04/07/94	04/07/94	04/07/99	EF
ATT-15.0	ATTACHMENT RCP START	004	04/20/95	04/20/95	04/20/00	EF
ATT-15.1	ATTACHMENT RCP DIAGNOSTICS	002	09/26/96	02/19/93	02/19/98	EF
ATT-15.2	ATTACHMENT SEAL COOLING	002	07/26/94	02/03/93	02/03/98	EF
ATT-16.0	ATTACHMENT RUPTURED S/G	006	10/03/96	11/08/94	11/08/99	EF
ATT-17.0	ATTACHMENT SD-1	006	11/03/95	02/03/95	02/03/00	EF
ATT-17.1	ATTACHMENT SD-2	005	09/26/96	01/26/94	01/26/99	EF
ATT-18.0	ATTACHMENT SFP - RWST	003	07/26/94	02/19/93	02/19/98	EF
ATT-19.0	ATTACHMENT SI FLUSH	XX	01/25/95			DE
ATT-20.0	ATTACHMENT VENT TIME	003	07/26/94	02/19/93	02/19/98	EF
ATT-21.0	ATTACHMENT RCS ISOLATION	001	07/26/94	02/03/93	02/03/98	EF
ATT-22.0	ATTACHMENT RESTORING FEED FLOW.	000	03/24/97	03/24/97	03/24/02	EF
TOTAL FOR PRATT	43					

PARAMETERS: DOC TYPES - PRAP

STATUS:

5 YEARS ONLY:

PROCEDURE NUMBER	PROCEDURE TITLE	REV	EFFECT DATE	LAST REVIEW	NEXT REVIEW	ST
AP-CCW.1	LEAKAGE INTO THE COMPONENT COOLING LOOP	011	02/24/96	04/20/95	04/20/00	EF
AP-CCW.2	LOSS OF CCW DURING POWER OPERATION	012	02/24/96	08/30/94	08/30/99	EF
AP-CCW.3	LOSS OF CCW - PLANT SHUTDOWN	010	03/29/96	08/30/94	08/30/99	EF
AP-CR.1	CONTROL ROOM INACCESSIBILITY	013	11/17/94	11/17/94	11/17/99	EF
AP-CVCS.1	CVCS LEAK	010	02/24/96	04/20/95	04/20/00	EF
AP-CVCS.2	DELETED	XX	04/21/93			DE
AP-CW.1	LOSS OF A CIRC WATER PUMP	005	03/13/96	04/21/93	04/21/98	QU
AP-ELEC.1	LOSS OF 12A AND/OR 12B BUSES	012	02/24/96	03/21/95	03/21/00	EF
AP-ELEC.2	SAFEGUARD BUSES LOW VOLTAGE OR SYSTEM LOW FREQUENCY	007	02/11/94	02/11/94	02/11/99	EF
AP-ELEC.3	LOSS OF 12A AND/OR 12B TRANSFORMER (BELOW 350 F)	002	02/24/96	03/06/93	03/06/98	EF
AP-FW.1	PARTIAL OR COMPLETE LOSS OF MAIN FEEDWATER	009	04/21/93	04/21/93	04/21/98	EF
AP-IA.1	LOSS OF INSTRUMENT AIR	011	10/26/95	09/09/94	09/09/99	EF
AP-PRZR.1	ABNORMAL PRESSURIZER PRESSURE	008	02/24/96	09/29/94	09/29/99	EF
AP-RCC.1	CONTINUOUS CONTROL ROD WITHDRAWAL/INSERTION	006	02/24/96	06/04/93	06/04/98	EF
AP-RCC.2	RCC/RPI MALFUNCTION	006	02/24/96	04/23/93	04/23/98	EF
AP-RCC.3	DROPPED ROD RECOVERY	001	02/24/96	04/23/93	04/23/98	EF
AP-RCP.1	RCP SEAL MALFUNCTION	010	05/31/96	04/20/95	04/20/00	EF
AP-RCS.1	REACTOR COOLANT LEAK	010	02/24/96	04/20/95	04/20/00	EF
AP-RCS.2	LOSS OF REACTOR COOLANT FLOW	007	06/09/94	10/08/93	10/08/98	EF
AP-RCS.3	HIGH REACTOR COOLANT ACTIVITY	006	04/23/93	04/23/93	04/23/98	EF
AP-RCS.4	SHUTDOWN LOCA	004	04/20/95	04/20/95	04/20/00	EF
AP-RHR.1	LOSS OF RHR	010	03/29/96	03/06/93	03/06/98	EF
AP-RHR.2	LOSS OF RHR WHILE OPERATING AT RCS REDUCED INVENTORY CONDITIONS	006	03/21/95	03/21/95	03/21/00	EF
AP-SW.1	SERVICE WATER LEAK	010	02/24/96	07/29/93	07/29/98	EF



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DOC TYPE: PRAP

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ABNORMAL PROCEDURE

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PARAMETERS: DOC TYPES - PRAP

STATUS:

5 YEARS ONLY:

PROCEDURE NUMBER	PROCEDURE TITLE	REV	EFFECT DATE	LAST REVIEW	NEXT REVIEW	ST
AP-TURB.1	TURBINE TRIP WITHOUT RX TRIP REQUIRED	007	05/07/93	05/07/93	05/07/98	EF
AP-TURB.2	TURBINE LOAD REJECTION	014	02/24/96	06/04/93	06/04/98	EF
AP-TURB.3	TURBINE VIBRATION	006	03/26/93	03/26/93	03/26/98	EF
AP-TURB.4	LOSS OF CONDENSER VACUUM	010	04/27/95	03/26/93	03/26/98	EF
AP-TURB.5	RAPID LOAD REDUCTION	001	09/14/95	07/10/95	07/10/00	EF

TOTAL FOR PRAP 29



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REPORT NAME: DOC-P001  
DOC TYPE: PRATT

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EOP ATTACHMENTS

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PARAMETERS: DOC TYPES - PRAP PRATT PRE PRECA PRER STATUS:

5 YEARS ONLY:

PROCEDURE NUMBER	PROCEDURE TITLE	REV	EFFECT DATE	LAST REVIEW	NEXT REVIEW	ST
ATT-1.0	ATTACHMENT AT POWER CCW ALIGNMENT	001	07/26/94	02/19/93	08/19/95	EF
ATT-2.0	ATTACHMENT AUX BLDG SW	003	07/26/94	04/21/93	10/21/95	EF
ATT-2.1	ATTACHMENT MIN SW	001	07/26/94	03/26/93	09/26/95	EF
ATT-2.2	ATTACHMENT SW ISOLATION	003	07/26/94	07/29/93	01/29/96	EF
ATT-2.3	ATTACHMENT SW LOADS IN CNMT	003	01/25/95	01/25/95	07/25/97	EF
ATT-3.0	ATTACHMENT CI/CVI	003	07/26/94	02/11/94	08/11/96	EF
ATT-3.1	ATTACHMENT CNMT CLOSURE	002	07/26/94	02/11/94	08/11/96	EF
ATT-4.0	ATTACHMENT CNMT RECIRC FANS	003	07/26/94	06/17/93	12/17/95	EF
ATT-5.0	ATTACHMENT COND TO S/G	004	01/25/95	01/25/95	07/25/97	EF
ATT-5.1	ATTACHMENT SAFW	004	11/08/94	11/08/94	05/08/97	EF
ATT-5.2	ATTACHMENT FIRE WATER COOLING TO TDAFW PUMP	001	07/26/94	03/04/94	09/04/96	EF
ATT-6.0	ATTACHMENT COND VACUUM	001	07/26/94	03/26/93	09/26/95	EF
ATT-7.0	ATTACHMENT CR EVAC	001	07/26/94	03/26/93	09/26/95	EF
ATT-8.0	ATTACHMENT DC LOADS	003	07/26/94	01/26/94	07/26/96	EF
ATT-8.1	ATTACHMENT D/G STOP	003	07/26/94	02/19/93	08/19/95	EF
ATT-8.2	ATTACHMENT GEN DEGAS	005	07/26/94	02/11/94	08/11/96	EF
ATT-8.3	ATTACHMENT NONVITAL	003	07/26/94	02/19/93	08/19/95	EF
ATT-8.4	ATTACHMENT SI/UV	003	07/26/94	02/19/93	08/19/95	EF
ATT-9.0	ATTACHMENT LETDOWN	005	07/26/94	01/26/94	07/26/96	EF
ATT-9.1	ATTACHMENT EXCESS L/D	002	07/26/94	02/03/93	08/03/95	EF
ATT-10.0	ATTACHMENT FAULTED S/G	004	07/26/94	06/11/93	12/11/95	EF
ATT-11.0	ATTACHMENT IA CONCERNS	001	07/26/94	07/02/93	01/02/96	EF
ATT-11.1	ATTACHMENT IA SUPPLY	001	07/26/94	07/02/93	01/02/96	EF
ATT-12.0	ATTACHMENT N2 PORVS	002	07/26/94	02/03/93	08/03/95	EF
ATT-13.0	ATTACHMENT NC	002	07/26/94	02/03/93	08/03/95	EF



REPORT NO. 01  
REPORT NAME: DOC-P001  
DOC TYPE: PRATT

GINNA NUCLEAR POWER PLANT  
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EOP ATTACHMENTS

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PARAMETERS: DOC TYPES - PRAP PRATT PRE PRECA PRER STATUS:

5 YEARS ONLY:

PROCEDURE NUMBER	PROCEDURE TITLE	REV	EFFECT DATE	LAST REVIEW	NEXT REVIEW	ST
ATT-14.0	ATTACHMENT NORMAL RHR COOLING	001	07/26/94	10/19/94	04/19/96	EF
ATT-14.1	ATTACHMENT RHR COOL	003	07/26/94	03/06/93	09/06/95	EF
ATT-14.2	ATTACHMENT RHR ISOL	001	07/26/94	03/06/93	09/06/95	EF
ATT-14.3	ATTACHMENT RHR NPSH	001	07/26/94	01/26/94	07/26/96	EF
ATT-14.4	ATTACHMENT RHR SAMPLE	001	07/26/94	01/26/94	07/26/96	EF
ATT-14.5	ATTACHMENT RHR SYSTEM	002	07/26/94	02/03/93	08/03/95	EF
ATT-14.6	ATTACHMENT RHR PRESS REDUCTION	000	04/07/94	04/07/94	10/07/96	EF
ATT-15.0	ATTACHMENT RCP START	003	07/26/94	02/19/93	08/19/95	EF
ATT-15.1	ATTACHMENT RCP DIAGNOSTICS	001	07/26/94	02/19/93	08/19/95	EF
ATT-15.2	ATTACHMENT SEAL COOLING	002	07/26/94	02/03/93	08/03/95	EF
ATT-16.0	ATTACHMENT RUPTURED S/G	005	11/08/94	11/08/94	05/08/97	EF
ATT-17.0	ATTACHMENT SD-1	004	07/26/94	02/19/93	08/19/95	EF
ATT-17.1	ATTACHMENT SD-2	004	07/26/94	01/26/94	07/26/96	EF
ATT-18.0	ATTACHMENT SFP - RWST	003	07/26/94	02/19/93	08/19/95	EF
ATT-19.0	ATTACHMENT SI FLUSH	XX	01/25/95			DE
ATT-20.0	ATTACHMENT VENT TIME	003	07/26/94	02/19/93	08/19/95	EF
ATT-21.0	ATTACHMENT RCS ISOLATION	001	07/26/94	02/03/93	08/03/95	EF

TOTAL FOR PRATT 42



REPORT NO. 01  
REPORT: NPSP0200  
DOC TYPE: PRECA

GINNA NUCLEAR POWER PLANT  
PROCEDURES INDEX  
EMERGENCY CONTINGENCY ACTIONS PROC

05/31/96 PAGE: 1

PARAMETERS: DOC TYPES - PRECA PRFR

STATUS:

5 YEARS ONLY:

PROCEDURE NUMBER	PROCEDURE TITLE	REV	EFFECT DATE	LAST REVIEW	NEXT REVIEW	ST
ECA-0.0	LOSS OF ALL AC POWER	017	04/20/95	04/20/95	04/20/00	EF
ECA-0.1	LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED	012	05/31/96	04/20/95	04/20/00	EF
ECA-0.2	LOSS OF ALL AC POWER RECOVERY WITH SI REQUIRED	008	04/07/94	04/07/94	04/07/99	EF
ECA-1.1	LOSS OF EMERGENCY COOLANT RECIRCULATION	010	04/20/95	04/20/95	04/20/00	EF
ECA-1.2	LOCA OUTSIDE CONTAINMENT	003	02/09/95	02/09/95	02/09/00	EF
ECA-2.1	UNCONTROLLED DEPRESSURIZATION OF BOTH STEAM GENERATORS	012	05/31/96	04/20/95	04/20/00	EF
ECA-3.1	SGTR WITH LOSS OF REACTOR COOLANT-SUBCOOLED RECOVERY DESIRED	011	04/20/95	04/20/95	04/20/00	EF
ECA-3.2	SGTR WITH LOSS OF REACTOR COOLANT-SATURATED RECOVERY DESIRED	014	04/20/95	04/20/95	04/20/00	EF
ECA-3.3	SGTR WITHOUT PRESSURIZER PRESSURE CONTROL	012	04/20/95	04/20/95	04/20/00	EF

TOTAL FOR PRFR 9



EOP: ATT-15.0	TITLE: ATTACHMENT RCP START	REV: 3 PAGE 1 of 1
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Superintendent

*[Signature]*

Date 7-26-94

- A) The following are prerequisites for starting an RCP:
- o RCP oil lift pump running (~2 minutes)
  - o RCP oil lift pressure white light - LIT
- B) In addition, the following conditions should be met prior to starting an RCP:
- o Both PRZR spray valves closed - DEMAND AT 0%
  - o CCW in service to selected RCP(s) with flow and temperature alarms (A-7, A-15) extinguished.
  - o Selected RCP(s) seal inlet temperature - LESS THAN 135°F
  - o Selected RCP(s) motor bearing temperatures - LESS THAN 200°F (PPCS address is GD RCPS or use recorder, if selected)
  - o Selected RCP(s) seal injection in service
    - o Seal injection flow - GREATER THAN 6 GPM
    - o Labyrinth seal D/P - GREATER THAN 15 INCHES OF WATER
  - o Selected RCP(s) #1 seal D/P - GREATER THAN 220 PSID
  - o Selected RCP(s) oil levels:
    - o Level alarms (A-24, A-32) - EXTINGUISHED
    - o Level indicators - ON SCALE
  - o Selected RCP(s) seal return alignment:
    - a) RCP #1 seal outlet valve(s) open:
      - o AOV-270A for RCP A
      - o AOV-270B for RCP B
    - b) IF MOV-313, seal return isolation, open, THEN verify the following:
      - o VCT pressure - GREATER THAN 15 PSIG
      - o Selected RCP(s) #1 seal leakoff flow - BETWEEN 0.25 GPM AND 5.5 GPM
      - o Selected RCP(s) standpipe low level alarm (B-11, B-12) - EXTINGUISHED
    - c) IF MOV-313 closed, THEN verify other RCP #1 seal parameters normal for selected RCP(s):
      - o RCP #1 seal inlet temperature - LESS THAN 135°F
      - o RCP #1 seal D/P - GREATER THAN 220 PSID

NOTE: RCP oil lift pump should be stopped after RCP is running.





EOP:	TITLE:	REV: 2
ATT-15.2	ATTACHMENT SEAL COOLING	PAGE 1 of 2

Superintendent *[Signature]* Date 7-26-94

IF all RCP seal cooling has been lost, THEN CCW cooling should be restored before establishing seal injection.

A. Perform the following to restore CCW flow to RCPs:

1) IF RCP seal injection NOT in service, THEN verify RCP CCW return valves closed.

- o MOV-759A, for RCP A
- o MOV-759B, for RCP B

2) Verify adequate power available to run one CCW pump (124 kw each pump). IF power available, THEN start one CCW pump.

3) Ensure MOV-817, CCW to CNMT - OPEN

4) Open RCP CCW supply valves and thermal barrier return valves for affected RCP:

- o MOV-749A and AOV-754A for RCP A
- o MOV-749B and AOV-754B for RCP B

5) Restore CCW flow to RCP(s) as follows:

a) IF RCP seal injection in service, THEN ensure RCP CCW return valve(s) open:

- o MOV-759A for RCP A
- o MOV-759B for RCP B

b) IF RCP seal injection NOT established, THEN perform the following:

1) Dispatch AO to locally crack open affected RCP CCW return valve(s):

- o MOV-759A for RCP A
- o MOV-759B for RCP B

2) WHEN affected RCP #1 seal outlet temperature is LESS THAN 235°F, THEN manually open affected RCP CCW. Return MOV from control board.



EOP:	TITLE:	REV: 2
ATT-15.2	ATTACHMENT SEAL COOLING	PAGE 2 of 2

B. Perform the following to restore RCP seal injection:

- 1) Verify RCP #1 seal outlet temperatures - LESS THAN 235°F.  
IF NOT, THEN consult TSC prior to restoring seal injection.
- 2) Verify any charging pump running.

NOTE: RCP seal cooldown rate should not exceed 1°F/min.

- 3) Dispatch AO with an RWST area key to locally restore seal injection flow as follows:
  - a) Verify seal injection valves, V-300A and V-300B, closed.
  - b) Notify control room to monitor RCP #1 seal outlet temperatures.
  - c) Crack open RCP seal injection needle valves, V-300A and V-300B, until minimum flow is established.
  - d) Adjust seal injection flow as directed by control room to maintain cooldown rate less than 1°F/min until normal seal injection flow is established.

EOP: AP-ELEC.3	TITLE: LOSS OF 12A AND/OR 12B TRANSFORMER (BELOW 350°F)	REV: 1 PAGE 1 of 20
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ROCHESTER GAS AND ELECTRIC CORPORATION

GINNA STATION

CONTROLLED COPY NUMBER 23

TECHNICAL REVIEW

PORC REVIEW DATE 6-8-94

  
PLANT SUPERINTENDENT

6-9-94  
EFFECTIVE DATE

CATEGORY 1.0

REVIEWED BY: \_\_\_\_\_

EOP: AP-ELEC.3	TITLE: LOSS OF 12A AND/OR 12B TRANSFORMER (BELOW 350°F)	REV: 1 PAGE 2 of 20
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A. PURPOSE - This procedure provides actions to respond to a loss of 12A or 12B SS Transformer when RCS temperature is less than 350°F.

B. ENTRY CONDITIONS/SYMPTOMS

1. ENTRY CONDITIONS - This procedure may be entered from:

a. AP-ELEC.1, when busses 12A and/or 12B are found to be deenergized and RCS temperature is less than 350°F.

2. SYMPTOMS - The symptoms of loss of #12A or 12B SS Transformer are:

a. Annunciator L-20, 12A XFMR OR 12A BUS TROUBLE, lit, or

b. Annunciator L-28, 12B XFMR OR 12B BUS TROUBLE, lit.

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EOP: AP-ELEC.3	TITLE: LOSS OF 12A AND/OR 12B TRANSFORMER (BELOW 350°F)	REV: 1 PAGE 3 of 20
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
<p>*****  <u>CAUTION</u>            ○ IF THE RCS IS WATER SOLID, THEN ANY INCREASE IN RCS TEMPERATURE MAY RESULT IN A SIGNIFICANT RCS PRESSURE INCREASE. RCS HEATUP SHOULD BE PREVENTED.            ○ OBSERVE D/G LOADING LIMITS OF 2300 KW FOR 1/2 HOUR, 2250 KW FOR 2 HOURS, AND 1950 KW FOR CONTINUOUS SERVICE.            ○ ANYTIME EMERGENCY D/GS ARE THE ONLY SOURCE OF AC POWER TO THE PLANT, PERSONNEL SHOULD BE ASSIGNED TO MAINTAIN SURVEILLANCE OF THE D/GS.            ○ IF ANY RADIOACTIVE RELEASE IN PROGRESS, THEN IT SHOULD BE TERMINATED UNTIL SUPPORT CONDITIONS ARE EVALUATED.            *****</p>		
<p><u>NOTE:</u> Conditions should be evaluated for site contingency reporting (Refer to EPIP-1.0, GINNA STATION EVENT EVALUATION AND CLASSIFICATION).</p>		
1	<p>Verify Emergency D/G Associated With Dead Bus - RUNNING</p> <ul style="list-style-type: none"> <li>Bus 12A - D/G A</li> <li>Bus 12B - D/G B</li> </ul>	<p>IF appropriate emergency D/G(s) <u>NOT</u> running, <u>THEN</u> attempt to start manually. (Refer to ER-D/G.1, RESTORATION OF A FAILED D/G.)</p>
2	<p>Verify Both Trains Of AC Emergency Busses Energized To At Least 420 VOLTS:</p> <ul style="list-style-type: none"> <li>Bus 14 and bus 18</li> <li>Bus 16 and bus 17</li> </ul>	<p>Try to restore power to all AC emergency busses. IF power can <u>NOT</u> be restored to at least one train, <u>THEN</u> refer to ECA-0.0, LOSS OF ALL AC POWER.</p>





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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
<p><u>NOTE:</u> When restarting equipment for recovery, it is preferable to start equipment on busses being supplied from offsite power, if possible.</p>		
3	Verify Service Water System Operation:	
	a. SW pumps - AT LEAST ONE RUNNING IN EACH LOOP	a. Verify selected SW pumps start on a timer (40 sec) after D/G start. <u>IF NOT</u> , <u>THEN</u> manually start pumps as conditions permit (258 kw each).
	b. SW header pressure - GREATER THAN 40 PSIG IN EACH LOOP	b. Manually align valves as necessary.
4	Check CCW Pump Status:	
	a. At least one CCW pump - RUNNING	a. Start one CCW pump (124 kw).
	b. Annunciator A-22, CCW PUMP DISCHARGE LO PRESS 60 PSIG - EXTINGUISHED	b. Start second CCW pump (124 kw).

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EOP:  
AP-ELEC.3

TITLE:  
LOSS OF 12A AND/OR 12B TRANSFORMER (BELOW  
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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

5 Check RCS Temperature - STABLE

IF RCS temperature increasing, THEN  
stabilize temperature using  
available method.

- RHR normal cooling
- Dump steam and feed
- Blowdown and feed

IF RCS temperature decreasing, THEN  
perform the following:

a. Stop dumping steam or control  
RHR normal cooling.

b. IF cooldown continues, THEN  
perform the following:

- 1) IF either MDAFW pump  
operable, THEN ensure TDAFW  
pump steam supply valves in  
PULL STOP.
- 2) WHEN S/G level greater than  
5% in one S/G, THEN limit  
feed flow to that required to  
maintain S/G level.



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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

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CAUTION

IF REFUELING IN PROGRESS, THEN STOP REFUELING OPERATIONS (NOTIFY REFUELING SRO).

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6 Restore Non-Safeguards Busses  
As Follows:

a. Verify non-safeguards busses -  
ENERGIZED

- Bus 13
- Bus 15

b. Verify MCC A - ENERGIZED

c. Verify MCC B - ENERGIZED

d. Check CNMT vent sample pump -  
RUNNING

e. Verify annunciator J-8, 480V MCC  
SUPPLY BREAKER TRIP -  
EXTINGUISHED

f. Reset control room lighting if  
necessary

a. Close non-safeguards bus tie  
breaker for affected bus(ses) if  
possible:

- Bus 13 to bus 14 tie
- Bus 15 to bus 16 tie

b. Perform the following:

1) Ensure the following pumps in  
PULL STOP:

- EH pump A
- Turning gear oil pump
- HP seal oil backup pump

2) Close MCC A supply breaker  
from bus 13.

c. Perform the following:

1) Ensure EH pump B in PULL STOP.

2) Close MCC B supply breaker  
from bus 15.

d. IF CNMT purge or mini-purge in  
progress, THEN secure purging.

e. Restore power to other MCCs as  
D/G loading permits.

- MCC E
- MCC F
- MCC G

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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

7 Check IA System:

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|--|--|
| <p>a. Verify 2 IA compressors - RUNNING</p> <p>b. Check IA supply</p> <ul style="list-style-type: none"> <li>o Pressure - GREATER THAN 60 PSIG</li> <li>o Pressure - STABLE OR INCREASING</li> </ul> | <p>a. Manually start IA compressors as necessary (75 kw each).</p> <p>b. Dispatch an AO to locally reset and start IA compressors (75 kw each).</p> <p><u>IF</u> IA can <u>NOT</u> be established, <u>THEN</u> refer to AP-IA.1, LOSS OF INSTRUMENT AIR.</p> |
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8 Check RCS Cooling:

- |  |   |
|--|---|
| <p>a. RHR system - PREVIOUSLY ALIGNED FOR RHR NORMAL COOLING</p> <p>b. Check RHR pumps - ANY RUNNING</p> <p>c. Go to Step 11</p> | <p>a. Go to Step 18.</p> <p>b. <u>IF</u> RHR normal cooling previously in service, <u>THEN</u> go to Step 9. <u>IF</u> RHR normal cooling <u>NOT</u> required, <u>THEN</u> go to Step 18.</p> |
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
9	Establish Conditions To Start RHR Pump:	
a.	Any RHR pump - AVAILABLE	a. <u>IF</u> RCS level greater than 64 inches, <u>THEN</u> go to AP-RHR.1, LOSS OF RHR. <u>IF NOT</u> , <u>THEN</u> go to AP-RHR.2, LOSS OF RHR WHILE OPERATING AT RCS REDUCED INVENTORY CONDITIONS.
b.	Verify CCW cooling to RHR system in service <ul style="list-style-type: none"> <li>o CCW pumps - AT LEAST ONE RUNNING</li> <li>o CCW to RHR Hxs, MOV-738A AND MOV-738B - OPEN AS NECESSARY</li> </ul>	b. Perform the following: <ol style="list-style-type: none"> <li>1) Ensure at least one CCW pump running.</li> <li>2) Open MOV-738A and MOV-738B as necessary.</li> </ol> <p><u>IF</u> CCW can <u>NOT</u> be restored, <u>THEN</u> continue attempts to restore CCW (Refer to AP-CCW.3, LOSS OF CCW - PLANT SHUTDOWN).</p>
c.	Place RHR Hx bypass valve, HCV-626, to MANUAL and close valve	



STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

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CAUTION

- o STARTING AN RHR PUMP MAY RESULT IN AN RCS LEVEL OR PRESSURE DECREASE DUE TO SHRINK OR VOID COLLAPSE.
- o THE RHR HX OUTLET VALVES (HCV-624 AND HCV-625) WILL FAIL OPEN ON LOSS OF INSTRUMENT AIR PRESSURE.

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10 Restore RHR Flow:

- a. Start one RHR pump
- b. At least one RHR pump - RUNNING
- c. Establish RHR flow - WITHIN LIMITS OF TABLE BELOW
- b. Go to Step 10d.
- c. Manually adjust RHR flow as necessary.

RCS STATUS	MAXIMUM RHR FLOW
RCS LEVEL - ANY LEVEL ABOVE 18"	3000 gpm
RCS LEVEL < 18"	1000 GPM
RCS LEVEL < 10"	800 GPM
RCS LEVEL < 6"	500 GPM

- d. RHR flow - RESTORED
- d. IF RCS level greater than 64 inches, THEN go to AP-RHR.1, LOSS OF RHR. IF NOT, THEN go to AP-RHR.2, LOSS OF RHR WHILE OPERATING AT RCS REDUCED INVENTORY CONDITIONS.
- e. Place RHR Hx bypass valve, HCV-626, controller in AUTO at desired flowrate
- f. Open RHR pump flow control valves as necessary to stabilize RCS temperature
  - HCV-624
  - HCV-625
- g. Check core exit T/Cs - STABLE OR DECREASING
- g. Start another RHR pump or increase RHR flow to establish required RCS cooling. DO NOT exceed RHR flow limits from table above.



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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
11	Check AFW Pump Status:	
	a. AFW pumps - ANY RUNNING	a. Go to Step 12.
	b. Both S/G levels - AT DESIRED LEVEL	b. Continue with Step 12. <u>WHEN</u> desired S/G levels established, <u>THEN</u> do Step 11c.
	c. Stop running AFW pumps and place switches in PULL STOP	
12	Evaluate RCS Conditions:	
	a. Check RCS status:	a. <u>IF</u> RCS is open to atmosphere, <u>THEN</u> go to Step 17.
	o RCS - CLOSED	
	o RCS pressure - GREATER THAN ATMOSPHERIC	
	b. Verify RCP #1 seal D/Ps - GREATER THAN 220 PSID	b. <u>IF</u> any RCP running with #1 seal D/P less than 220 psid, <u>THEN</u> stop affected RCP.

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EOP: AP-ELEC.3	TITLE: LOSS OF 12A AND/OR 12B TRANSFORMER (BELOW 350°F)	REV: 1  PAGE 11 of 20
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
13	Check Charging Pump Suction Aligned To VCT:	
a.	VCT level - GREATER THAN 20%	<p>a. <u>IF</u> VCT level can <u>NOT</u> be maintained greater than 5%, <u>THEN</u> perform the following:</p> <p>1) Ensure charging pump suction aligned to RWST</p> <ul style="list-style-type: none"> <li>o LCV-112B open</li> <li>o LCV-112C closed</li> </ul> <p>2) Continue with Step 14. <u>WHEN</u> VCT level greater than 20%, <u>THEN</u> do Step 13b.</p>
b.	Verify charging pumps aligned to VCT	b. Manually align valves as necessary.
	<ul style="list-style-type: none"> <li>o LCV-112C open</li> <li>o LCV-112B closed</li> </ul>	
14	Check Charging Pumps - ANY CHARGING PUMP RUNNING	<p><u>IF</u> charging pumps required, <u>THEN</u> perform the following:</p> <p>a. Verify charging to loop B cold leg, AOV-294, open.</p> <p>b. Verify charging flow control valve, HCV-142, open as necessary.</p> <p>c. <u>IF</u> desired, <u>THEN</u> place letdown pressure controller, PCV-135, in MANUAL.</p> <p>d. Start one charging pump (75 kw each pump).</p> <p>e. Increase charging pump speed and control PCV-135 as necessary to control PRZR pressure or level.</p>

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
15	Monitor RCS Pressure:	
a.	Pressure - LESS THAN 390 PSIG	<p>a. <u>IF</u> RCS is solid, <u>THEN</u> control charging and letdown pressure control valve (PCV-135) as necessary to stabilize RCS pressure.</p> <p><u>IF</u> PRZR bubble established, <u>THEN</u> operate normal or auxiliary spray to decrease pressure.</p>
b.	Pressure - STABLE	<p>b. Stabilize RCS pressure using appropriate means.</p> <ul style="list-style-type: none"> <li>• Charging</li> <li>• Letdown</li> <li>• PCV-135 (solid)</li> <li>• Normal spray</li> <li>• Auxiliary spray</li> <li>• PRZR heaters</li> </ul>
16	Check PRZR Level:	
a.	Narrow range level - ON SCALE	a. <u>IF</u> RCS is solid, <u>THEN</u> go to Step 17.
b.	Level - TRENDING TO PROGRAM	b. Adjust charging pump speed as necessary to control PRZR level.
17	Monitor RCS Temperature	
a.	Core exit T/Cs - STABLE OR DECREASING	<p>a. Adjust RCS cooling as necessary and return to Step 3.</p> <ul style="list-style-type: none"> <li>• S/G steaming</li> <li>• S/G feeding</li> <li>• RHR cooling</li> </ul>
b.	Go to Step 26	





EOP:  
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
18	Check AFW System Status:  a. Verify TDAFW pump steam supply valves in PULL STOP     b. Verify MDAFW pump crosstie valves closed  • MOV-4000A • MOV-4000B	a. <u>IF</u> S/Gs providing heat sink, <u>THEN</u> perform the following:  1) Verify adequate MDAFW flow.  2) Pull stop TDAFW pump.  3) Adjust AFW flow as necessary to stabilize S/G level and RCS temperature.  b. Ensure at least one MDAFW pump off. <u>IF</u> two pumps required, <u>THEN</u> close both MDAFW pump crosstie valves.
19	Check Any S/G Level - GREATER THAN 17%	Start MDAFW pumps as necessary to restore S/G level.
20	Check RCS Pressure - GREATER THAN 300 PSIG	Increase RCS pressure to greater than 300 psig. <u>IF</u> RCP #1 seal D/P can <u>NOT</u> be maintained greater than 220 psid, <u>THEN</u> trip any running RCP.
21	Check RCP Status - ANY RCP RUNNING	Verify natural circulation (Refer to Attachment NC). <u>IF</u> natural circulation <u>NOT</u> verified, <u>THEN</u> increase dumping steam.



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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
22	Monitor RCS Temperature - STABLE OR DECREASING	Control S/G ARVs to stabilize RCS temperature. <u>IF</u> S/G ARVs do <u>NOT</u> provide adequate cooling, <u>THEN</u> perform the following:  a. Initiate S/G blowdown from both S/Gs.  b. Maintain both S/G levels stable by controlling AFW flow.
23	Check CVCS Operation:  a. Charging pumps - AT LEAST ONE RUNNING     b. Check letdown indications:  o Check PRZR level - GREATER THAN 13%  o Letdown flow - APPROXIMATELY 40 GPM  o Letdown flow - STABLE   c. Adjust charging pump speed and HCV-142 as necessary to restore PRZR level and labyrinth seal D/P  d. Go to Step 25	a. Perform the following:  1) Start charging pumps as necessary.  2) Establish greater than 20 gpm charging line flow.  b. Perform the following:  1) Close loop B cold leg to REGEN Hx, AOV-427.  2) Close letdown orifice valves (AOV-200A, AOV-200B, and AOV-202)  3) <u>IF</u> PRZR level greater than 13%, <u>THEN</u> go to Step 24. <u>IF NOT</u> , <u>THEN</u> continue with Step 26. <u>WHEN</u> PRZR level greater than 13%, <u>THEN</u> do Steps 24 and 25.



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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

NOTE: Steps 24 and 25 may be performed concurrently.

24 Establish Normal Letdown:

- a. Establish charging line flow to REGEN Hx - GREATER THAN 20 GPM
- b. Verify the following switches in CLOSE:
  - Letdown orifice valve (AOV-200A, AOV-200B, and AOV-202)
  - Loop B cold leg to REGEN Hx AOV-427
- c. Place letdown controllers in MANUAL at 40% open
  - TCV-130
  - PCV-135
- d. Open AOV-427
- e. Open letdown orifice valves as necessary
- f. Place TCV-130 in AUTO at 105°F
- g. Place PCV-135 in AUTO at 250 psig
- h. Adjust charging pump speed and HCV-142 as necessary

Perform the following steps in sequence to establish excess letdown:

- o Place excess letdown divert valve, AOV-312, to NORMAL
- o Ensure CCW from excess letdown open, AOV-745
- o Ensure RCP seal return isolation valve open, MOV-313
- o Open excess letdown isolation valve, AOV-310
- o Slowly open HCV-123 to maintain excess letdown temperature less than 195°F and pressure less than 100 psig



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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
25	Verify PRZR Heaters Restored: <ul style="list-style-type: none"> <li>o PRZR proportional heater breaker - CLOSED</li> <li>o PRZR backup heater breaker - RESET/IN AUTO</li> </ul>	<p><u>IF</u> PRZR heaters required, <u>THEN</u> perform the following:</p> <ul style="list-style-type: none"> <li>a. Verify adequate D/G capacity available for PRZR heaters (400 kw each bank).</li> <li>b. Reset and close PRZR proportional heater breaker if necessary.</li> <li>c. Reset PRZR backup heater breaker and return to AUTO if necessary.</li> </ul> <p><u>IF</u> on natural circulation and at least 100 kw of PRZR heaters can <u>NOT</u> be restored within 6 hours, <u>THEN</u> be on RHR within an additional 6 hours. (Refer to Technical Specification 3.1.1.5)</p>
<p><u>NOTE:</u> Check Tech Spec section 3.7 for limiting conditions for operation.</p>		
26	Restore Normal Electric System Alignment:	
	<ul style="list-style-type: none"> <li>a. Verify circuit 767 and/or 751 - AVAILABLE</li> <li>b. Restore power to 12A and/or 12B bus (Refer to ER-ELEC.1, RESTORATION OF OFFSITE POWER)</li> <li>c. Verify all emergency AC bus normal feed breakers - CLOSED <ul style="list-style-type: none"> <li>• Bus 14</li> <li>• Bus 16</li> <li>• Bus 17</li> <li>• Bus 18</li> </ul> </li> <li>d. Stop any unloaded emergency D/G and place in standby (Refer to Attachment D/G STOP)</li> </ul>	<ul style="list-style-type: none"> <li>a. Continue with Step 28. <u>WHEN</u> offsite power available, <u>THEN</u> do Steps 26b, c, d and 27.</li> <li>c. Restore emergency AC busses to normal power supply (Refer to ER-ELEC.1, RESTORATION OF OFFSITE POWER)</li> </ul>





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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
27	Check If An RCP Should Be Started:	
	a. Check the following:	a. Go to Step 28.
	o Both RCPs - OFF	
	o RCP operation - DESIRED	
	b. RCS pressure - APPROXIMATELY 325 PSIG	b. Control PRZR heaters and/or charging pump speed as necessary to restore RCS pressure.
	c. Check PRZR level - LESS THAN 38%	c. Verify S/G temperature (obtained locally in CNMT at S/G handhole) less than RCS cold leg temperature. <u>IF NOT</u> , <u>THEN</u> go to Step 28.
	d. Try to start an RCP	d. <u>IF</u> an RCP can <u>NOT</u> be started, <u>THEN</u> continue to monitor natural circulation conditions (Refer to Attachment NC).
	1) Establish conditions for starting an RCP	
	a) Bus 11A or 11B energized	
	b) Refer to Attachment RCP START	
	2) Start one RCP	
28	Check RCS Temperature - STABLE OR DECREASING	Adjust RCS cooling as necessary.
		• S/G steaming
		• S/G feeding
		• RHR cooling



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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
29	Establish Normal Shutdown Alignment:	
a.	Verify turning gear oil pump - RUNNING	a. <u>IF</u> turbine oil system operation required, <u>THEN</u> perform the following:  1) Manually start turning gear oil pump (42 kw).  2) Dispatch A0 to place turbine on turning gear if desired.
b.	Verify main generator - DEPRESSURIZED	b. Perform the following:  1) Manually start the HP seal oil backup pump  2) Dispatch A0 to locally perform the following:  o Verify proper operation of the seal oil system (Refer to T-34B, GENERATOR SEAL OIL SYSTEM NORMAL OPERATION).  o Ensure bearing drain vapor extractor running.  o Ensure main lube oil reservoir vapor extractor running.
c.	Check RCS temperature - LESS THAN 135°F	c. Perform the following:  1) Ensure one Rx compartment cooling fan running (23 kw).  2) Ensure one control rod shroud fan running (45 kw).
d.	Dispatch A0 to start waste gas compressor as necessary	

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
30	Restore Equipment Alignment:	
a.	Verify at least 1 CNMT recirc fan - RUNNING	a. Start CNMT recirc fans as necessary (240 kw each).
b.	Check radiation monitoring systems:	b. Perform the following:
	o CNMT vent sample pump - RUNNING	1) Restore sample pumps and radiation monitors as necessary.
	o Plant vent sample pump - RUNNING	2) Restart CNMT purge or mini-purge if desired.
	o All area and process monitors operating as required	
c.	Verify annunciator L-1, AUX BLDG VENT SYSTEM CONTROL PANEL - EXTINGUISHED	c. <u>IF</u> bus 11A or 11B energized, <u>THEN</u> dispatch AO to restore AUX BLDG ventilation (Refer to T-35A, AUX AND INTERMEDIATE BUILDING VENTILLATION STARTUP AND SHUTDOWN)
d.	Verify service air compressor - RUNNING	d. Dispatch AO to locally start service air compressor if desired.
e.	Verify motor fire pump breaker - CLOSED	e. Close motor fire pump breaker.
f.	Check control board annunciator panels - ALARM STATUS VALID FOR PLANT CONDITIONS	f. Perform alarm response procedures for unexpected alarms.
g.	Verify control board valve alignment - NORMAL (Refer to 0-6.13, DAILY SURVEILLANCE LOG)	g. Manually align valves as necessary.

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
31	Check Status Of DC System Loads:	
	a. Verify emergency DC lube oil pump - OFF	a. Manually stop emergency DC lube oil pump.
	b. Verify TDAFW pump DC oil pump - OFF	b. Perform the following: 1) Ensure TDAFW AC oil pump running. 2) Stop TDAFW pump DC oil pump.
	c. Verify both MFW pump DC oil pumps - OFF	c. Stop MFW pump DC oil pumps.
32	Verify Offsite Power - RESTORED	Continue attempts to restore offsite power (Refer to ER-ELEC.1, RESTORATION OF OFFSITE POWER).
33	Notify Higher Supervision	
	<u>NOTE:</u> Refer to O-9.3, NRC IMMEDIATE NOTIFICATION, for reporting requirements.	
34	Return To Procedure Or Guidance In Effect	

-END-

24.

1000000

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4



EOP: AP-ELEC.3	TITLE: LOSS OF 12A AND/OR 12B TRANSFORMER (BELOW 350°F)	REV: 1 PAGE 1 of 1
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AP-ELEC.3 APPENDIX LIST

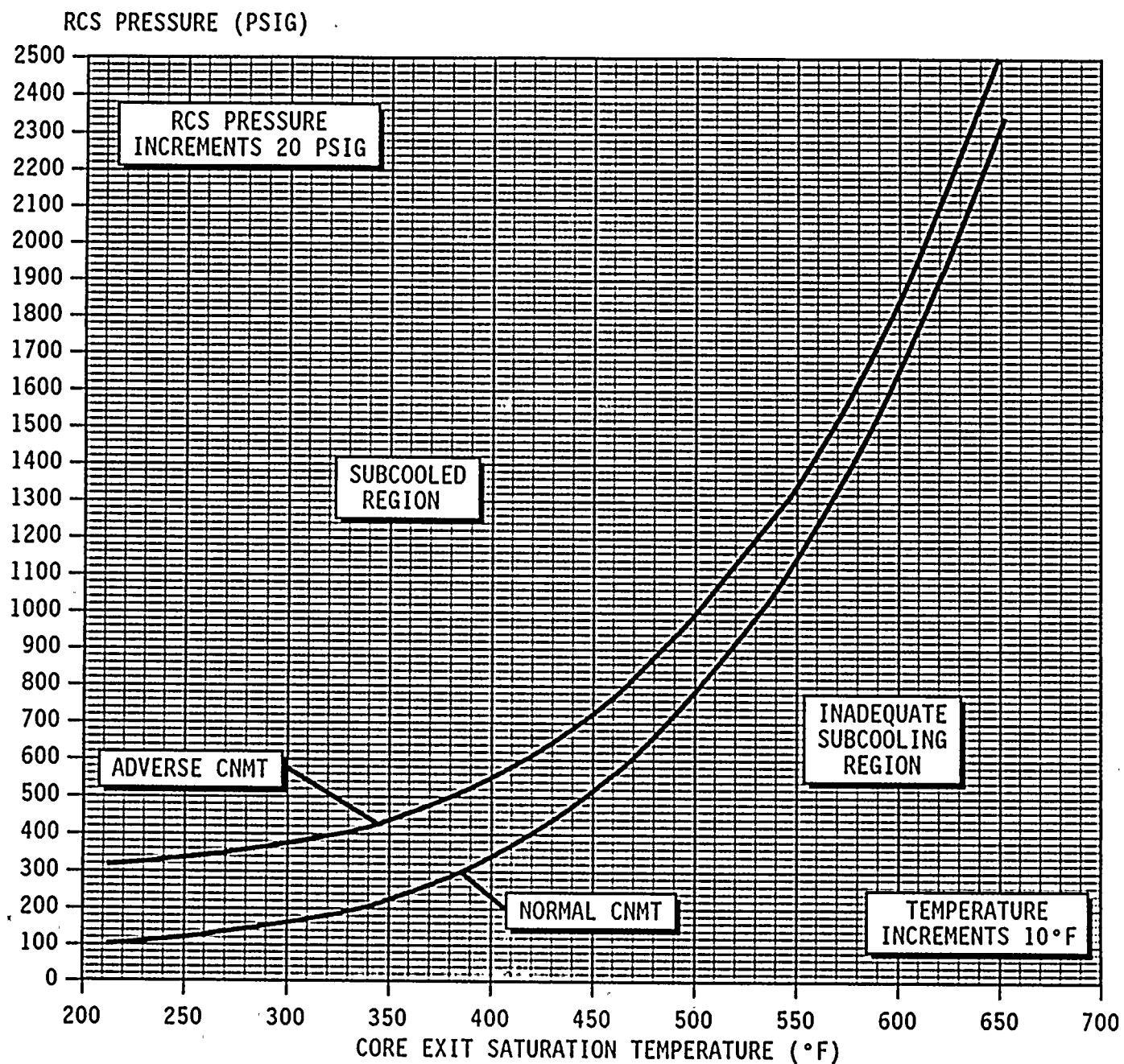
<u>TITLE</u>	<u>PAGES</u>
1) FIGURE MIN SUBCOOLING	1
2) ATTACHMENT RCP START	1
3) ATTACHMENT NC	1
4) ATTACHMENT D/G STOP	1



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FIGURE MIN SUBCOOLING

NOTE: Subcooling Margin = Saturation Temperature From Figure  
Below [-] Core Exit T/C Indication





EOP: ECA-0.1	TITLE: LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED	REV: 12 PAGE 1 of 20
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ROCHESTER GAS AND ELECTRIC CORPORATION

GINNA STATION

CONTROLLED COPY NUMBER 213

  
RESPONSIBLE MANAGER

5-31-96  
EFFECTIVE DATE

CATEGORY 1.0

REVIEWED BY: \_\_\_\_\_

EOP: ECA-0.1	TITLE: LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED	REV: 12 PAGE 2 of 20
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A. PURPOSE - This procedure provides actions to use normal operational systems to stabilize plant conditions following restoration of AC emergency power.

B. ENTRY CONDITIONS/SYMPTOMS

1. ENTRY CONDITIONS - This procedure is entered from:

a. ECA-0.0, LOSS OF ALL AC POWER, when AC emergency power is restored and SI is not required.



EOP:

ECA-0.1

TITLE:

LOSS OF ALL AC POWER RECOVERY WITHOUT SI  
REQUIRED

REV: 12

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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

\*\*\*\*\*

CAUTION

IF AN SI SIGNAL IS ACTUATED PRIOR TO PERFORMING STEP 10 OF THIS PROCEDURE,  
THEN SI SHOULD BE RESET TO PERMIT MANUAL LOADING OF EQUIPMENT ON AN AC  
EMERGENCY BUS.

\*\*\*\*\*

- NOTE: o CSFSTs should be monitored for information only. FR procedures  
should not be implemented prior to completion of Step 10.
- o Adverse CNMT values should be used whenever CNMT pressure is  
greater than 4 psig or CNMT radiation is greater than  $10^{+05}$  R/hr.

### 1 Check RCP Seal Isolation Status:

- a. RCP seal injection needle valves  
- CLOSED

- V-300A
- V-300B

- b. RCP CCW return valves - CLOSED

- MOV-759A
- MOV-759B

- a. Dispatch AO with key to RWST  
gate to locally close valves  
before starting charging pump.

- b. IF valves open or position not  
known, THEN check CCW pump  
status:

- 1) IF pump running, THEN go to  
Step 2.
- 2) IF pump NOT running, THEN  
manually close valves.

IF valve(s) can NOT be  
closed, THEN place switches  
for RCP thermal barrier CCW  
outlet valves to CLOSE.

- AOV-754A
- AOV-754B





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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
2	Check CI Annunciator A-26, CONTAINMENT ISOLATION - EXTINGUISHED	Perform the following:  a. Depress CI reset pushbutton  b. Verify annunciator A-26, CONTAINMENT ISOLATION, extinguished.

EOP: ECA-0.1	TITLE: LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED	REV: 12 PAGE 5 of 20
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	3 Establish IA to CNMT;	
	a. Verify non-safeguards busses energized from offsite power	a. Perform the following:
	o Bus 13 normal feed - CLOSED	1) Close non-safeguards bus tie breakers:
	-OR-	• Bus 13 to Bus 14 tie
	o Bus 15 normal feed - CLOSED	• Bus 15 to Bus 16 tie
	b. Check at least two SW pumps - RUNNING	b. Manually start SW pumps as power supply permits (258 kw each).
		<u>IF</u> less than two SW pumps running, <u>THEN</u> go to Step 4.
	c. Verify turbine building SW isolation valves - OPEN	c. Manually align valves.
	• MOV-4613 and MOV-4670	
	• MOV-4614 and MOV-4664	
	d. Start at least two air compressors (75 kw each)	d. <u>IF</u> air compressors can <u>NOT</u> be started, <u>THEN</u> dispatch AO to locally reset compressors as necessary.
	e. Check IA supply:	e. Perform the following:
	o Pressure - GREATER THAN 60 PSIG	1) Continue attempts to restore IA (Refer to AP-IA.1, LOSS OF INSTRUMENT AIR).
	o Pressure - STABLE OR INCREASING	2) Continue with Step 6. <u>WHEN</u> IA restored, <u>THEN</u> do Steps 3f through 5.
	f. Reset both trains of XY relays for IA to CNMT (AOV-5392) if necessary	
	g. Verify IA to CNMT AOV-5392 - OPEN	



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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
***** CAUTION *****		
THE LOADS PLACED ON THE ENERGIZED AC EMERGENCY BUS SHOULD NOT EXCEED THE CAPACITY OF THE POWER SOURCE. *****		
4	Manually Load Following Equipment On AC Emergency Busses:	
	a. Start one CCW pump (124 kw)	
	b. Energize MCCs as power supply permits	
	<ul style="list-style-type: none"> <li>• MCC A from Bus 13</li> <li>• MCC B from Bus 15</li> <li>• MCC E from Bus 15</li> <li>• MCC F from Bus 15</li> </ul>	
	c. Verify instrument bus D - ENERGIZED	c. Restore power to instrument bus D from MCC B or MCC A (maintenance supply).
	d. <u>WHEN</u> bus 15 restored, <u>THEN</u> reset control room lighting	
	e. Start at least one CNMT RECIRC fan	
	f. Restore Rx head cooling as power supply permits:	
	1) Start one Rx compartment cooling fan (23 kw each)	1) Perform the following: <ul style="list-style-type: none"> <li>o Dispatch A0 to reset UV relays at MCC C and MCC D.</li> <li>o Manually start one fan as power supply permits. (23 kw)</li> </ul>
	2) Start both control rod shroud fans (45 kw each)	2) Manually start at least one fan (45 kw)
	g. Dispatch A0 to establish normal shutdown alignment (Refer to Attachment SD-1)	

EOP: ECA-0.1	TITLE: LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED	REV: 12 PAGE 7 of 20
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
5	Check If Charging Flow Has Been Established:	
	a. Charging pumps - ANY RUNNING	a. Perform the following: <ul style="list-style-type: none"> <li>1) Ensure seal injection needle valves to both RCPs isolated: <ul style="list-style-type: none"> <li>• RCP A, V-300A</li> <li>• RCP B, V-300B</li> </ul> </li> <li>2) Ensure HCV-142 open, demand at 0%.</li> </ul>
	b. Charging pump suction aligned to RWST: <ul style="list-style-type: none"> <li>o LCV-112B - OPEN</li> <li>o LCV-112C - CLOSED</li> </ul>	b. Manually align valves as necessary. <p><u>IF</u> LCV-112B can <u>NOT</u> be opened, <u>THEN</u> perform the following:</p> <ul style="list-style-type: none"> <li>1) Verify charging pump A <u>NOT</u> running and place in PULL STOP.</li> <li>2) Dispatch AO to locally open manual charging pump suction from RWST (V-358 located in charging pump room).</li> <li>3) <u>WHEN</u> V-358 open, <u>THEN</u> direct AO to close V-268 to isolate charging pumps B and C from VCT (V-268 located in charging pump room).</li> </ul>
	c. Start charging pumps (75 kw each) as necessary and adjust charging flow to restore PRZR level	

EOP: ECA-0.1	TITLE: LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED	REV: 12 PAGE 8 of 20
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
* 6 Monitor SI Initiation Criteria:		
a. RCS subcooling based on core exit T/Cs - GREATER THAN 0°F USING FIGURE MIN SUBCOOLING		a. Go to ECA-0.2, LOSS OF ALL AC POWER RECOVERY WITH SI REQUIRED, Step 1.
b. PRZR level - GREATER THAN 5% [30% adverse CNMT]		b. Control charging flow to maintain PRZR level.  IF PRZR level can <u>NOT</u> be maintained, <u>THEN</u> go to ECA-0.2, LOSS OF ALL AC POWER RECOVERY WITH SI REQUIRED, Step 1.
7 Check PRZR Level - GREATER THAN 13% [40% FOR ADVERSE CONTAINMENT]		Control charging flow as necessary.

EOP: ECA-0.1	TITLE: LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED	REV: 12 PAGE 9 of 20
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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CAUTION

- o IF CST LEVEL DECREASES TO LESS THAN 5 FEET, THEN ALTERNATE WATER SOURCES FOR AFW PUMPS WILL BE NECESSARY (REFER TO ER-AFW.1, ALTERNATE WATER SUPPLY TO AFW PUMPS).
- o IF S/G NR LEVEL DECREASES TO LESS THAN 5% [25% ADVERSE CNMT] AND FEED FLOW IS LESS THAN 200 GPM, THEN THE MDAFW PUMPS SHOULD BE MANUALLY LOADED ON AC EMERGENCY BUS TO SUPPLY WATER TO THE S/G(S).

\*\*\*\*\*

NOTE:

- o If MDAFW pump operation is not required, pump switches should be maintained in PULL-STOP to prevent automatic start.
- o TDAFW pump flow control valves fail open on loss of IA.

\* 8 Monitor Intact S/G Levels:

a. Narrow range level - GREATER THAN 5% [25% adverse CNMT]

b. Control feed flow to maintain narrow range level between 17% [25% adverse CNMT] and 52%

a. Maintain total feed flow greater than 200 gpm until narrow range level greater than 5% [25% adverse CNMT] in at least one S/G.

IF feed flow less than 200 gpm, THEN perform the following:

1) Verify MDAFW pump discharge valves open.

- MOV-4007
- MOV-4008

2) Manually start MDAFW pumps as necessary (228 KW each).



EOP: ECA-0.1	TITLE: LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED	REV: 12 PAGE 10 of 20
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
9	<p>Establish S/G Pressure Control:</p> <ol style="list-style-type: none"> <li>Adjust S/G ARV controllers to maintain existing S/G pressure</li> <li>Verify S/G ARV controllers in AUTO</li> <li>Dispatch AO to perform Attachment SD-2</li> </ol> <p>*****  <u>CAUTION</u>            IF AN SI SIGNAL IS ACTUATED AFTER THE SI PUMP SWITCHES ARE PLACED IN AUTO, THEN ECA-0.2, LOSS OF ALL AC POWER RECOVERY WITH SI REQUIRED, SHOULD BE PERFORMED.            *****</p> <p><u>NOTE:</u> Safeguards pump switches should be placed in AUTO only if associated bus is energized.</p>	
10	<p>Place Following Pump Switches In AUTO:</p> <ul style="list-style-type: none"> <li>• SI pumps</li> <li>• RHR pumps</li> <li>• CNMT spray pumps</li> </ul>	



EOP: ECA-0.1	TITLE: LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED	REV: 12 PAGE 11 of 20
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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

NOTE: FR procedures may now be implemented as necessary.

11 Verify Adequate SW Flow To  
CCW Hx:

- |  |  |
|--|--|
| <p>a. Verify at least two SW pumps -<br/>RUNNING</p> <p>b. Verify AUX BLDG SW isolation<br/>valves - OPEN</p> <ul style="list-style-type: none"> <li>• MOV-4615 and MOV-4734</li> <li>• MOV-4616 and MOV-4735</li> </ul> <p>c. Verify CNMT RECIRC fan<br/>annunciator C-2, HIGH<br/>TEMPERATURE ALARM - EXTINGUISHED</p> | <p>a. Manually start pumps as power<br/>supply permits (258 kw each).<br/><u>IF</u> less than two SW pumps can be<br/>operated, <u>THEN</u> go to Step 19.</p> <p>b. Establish SW to AUX BLDG (Refer<br/>to Attachment AUX BLDG SW).</p> <p>Continue with Step 19. <u>WHEN</u> SW<br/>restored to AUX BLDG, <u>THEN</u> do<br/>Steps 11c through 18.</p> <p>c. Dispatch AO to locally throttle<br/>flow to CCW Hx to between<br/>5000 gpm and 6000 gpm total flow.</p> |
|--|--|

12 Check If Normal CVCS  
Operation Can Be Established

- |  |   |
|--|---|
| <p>a. Verify IA restored:</p> <ul style="list-style-type: none"> <li>o IA to CNMT (AOV-5392) - OPEN</li> <li>o IA pressure - GREATER THAN<br/>60 PSIG</li> </ul> <p>b. Charging pump - ANY RUNNING</p> | <p>a. Continue with Step 19. <u>WHEN</u> IA<br/>restored, <u>THEN</u> do Steps 12<br/>through 18.</p> <p>b. Continue with Step 19. <u>WHEN</u> any<br/>charging pump running, <u>THEN</u> do<br/>Steps 13 through 18.</p> |
|--|---|



STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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CAUTION

- o RCP THERMAL BARRIER COOLING SHOULD BE ESTABLISHED SLOWLY TO MINIMIZE POTENTIAL INTRODUCTION OF STEAM INTO THE CCW SYSTEM AND THERMAL SHOCK TO RCP.
- o RCP SEAL INJECTION SHOULD BE ESTABLISHED SLOWLY TO MINIMIZE RCP THERMAL STRESSES AND POTENTIAL SEAL FAILURES.
- o AS PART OF SUBSEQUENT RECOVERY ACTIONS, RCP(S) SHOULD NOT BE STARTED PRIOR TO A STATUS EVALUATION UNLESS REQUIRED BY AN INADEQUATE CORE COOLING SITUATION.

\*\*\*\*\*

NOTE: SW should be aligned to CCW Hxs before restoring RCP seal cooling.

13 Check RCP Cooling:

Establish normal cooling to RCPs  
(Refer to Attachment SEAL COOLING).

a. Check CCW to RCPs:

- o Annunciator A-7, RCP 1A CCW  
RETURN HIGH TEMP OR LOW FLOW  
- EXTINGUISHED
- o Annunciator A-15, RCP 1B CCW  
RETURN HIGH TEMP OR LOW FLOW  
- EXTINGUISHED

b. Check RCP seal injection:

- o Labyrinth seal D/Ps - GREATER  
THAN 15 INCHES OF WATER

-OR-

- o RCP seal injection flow to  
each RCP - GREATER THAN 6 GPM

EOP: ECA-0.1	TITLE: LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED	REV: 12 PAGE 13 of 20
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
14	Check If Seal Return Flow Should Be Established:	
a.	Verify RCP #1 seal outlet temperature - LESS THAN 235°F	a. Go to Step 15.
b.	Verify RCP seal outlet valves - OPEN  • AOV-270A • AOV-270B	b. Manually open valves as necessary.
c.	Reset both trains of XY relays for RCP seal return isolation valve MOV-313 if necessary	
d.	Open RCP seal return isolation valve MOV-313	d. Perform the following:  1) Place MOV-313 switch to OPEN.  2) Dispatch AO with key to RWST gate to locally open MOV-313.
e.	Verify RCP #1 seal leakoff flow - LESS THAN 6.0 GPM	e. Close the affected RCP seal discharge valve:  • RCP A, AOV-270A • RCP B, AOV-270B  <u>IF</u> both RCP seal discharge valves are shut, <u>THEN</u> go to Step 15.
f.	Verify RCP #1 seal leakoff flow. - GREATER THAN 0.8 GPM	f. Refer to AP-RCP.1, RCP SEAL MALFUNCTION.

EOP: ECA-0.1	TITLE: LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED	REV: 12 PAGE 14 of 20
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
15	Verify PRZR Level - GREATER THAN 13% [40% adverse CNMT]	Continue with Step 19. <u>WHEN</u> PRZR level increases to greater than 13% [40% adverse CNMT], <u>THEN</u> do Steps 16 through 18.
16	Establish Normal Letdown: <ul style="list-style-type: none"> <li>a. Establish charging line flow to REGEN Hx - GREATER THAN 20 GPM</li> <li>b. Place the following switches to CLOSE: <ul style="list-style-type: none"> <li>• Letdown orifice valves (AOV-200A, AOV-200B, and AOV-202)</li> <li>• AOV-371, letdown isolation valve</li> <li>• AOV-427, loop B cold leg to REGEN Hx</li> </ul> </li> <li>c. Place letdown controllers in MANUAL at 40% open <ul style="list-style-type: none"> <li>• TCV-130</li> <li>• PCV-135</li> </ul> </li> <li>d. Reset both trains of XY relays for AOV-371 and AOV-427 if necessary</li> <li>e. Open AOV-371 and AOV-427</li> <li>f. Open letdown orifice valves as necessary</li> <li>g. Place TCV-130 in AUTO at 105°F</li> <li>h. Place PCV-135 in AUTO at 250 psig</li> <li>i. Adjust charging pump speed and HCV-142 as necessary</li> </ul>	<p><u>IF</u> RCP seal return has been established, <u>THEN</u> establish excess letdown as follows:</p> <ul style="list-style-type: none"> <li>o Place excess letdown divert valve, AOV-312, to NORMAL.</li> <li>o Ensure CCW from excess letdown open, (AOV-745).</li> <li>o Open excess letdown isolation valve AOV-310.</li> <li>o Slowly open HCV-123 to maintain excess letdown temperature less than 195°F and pressure less than 100 psig.</li> <li>o Adjust charging pump speed as necessary.</li> </ul> <p><u>IF</u> RCP seal return <u>NOT</u> established, <u>THEN</u> consult TSC to determine if excess letdown should be placed in service.</p>

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

## 17 Check VCT Makeup System:

## a. Verify the following:

- 1) Boric acid and RMW flow control valves - SET FOR REQUIRED CSD CONCENTRATION (Refer to Figure SDM)
- 2) At least one BA and RMW pump in AUTO
- 3) RMW mode selector switch in AUTO
- 4) RMW control armed - RED LIGHT LIT

## b. Check VCT level

- o Level - GREATER THAN 20%  
-OR-
- o Level - STABLE OR INCREASING

a. IF VCT auto makeup can NOT be established, THEN manually control VCT level. (Refer to ER-CVCS.1, REACTOR MAKEUP CONTROL MALFUNCTION).

## b. Manually increase VCT makeup flow as follows:

- 1) Ensure BA transfer pumps and RMW pumps running. IF NOT, THEN dispatch AO to reset MCC C and MCC D UV lockouts as necessary.
- 2) Place RMW flow control valve HCV-111 in MANUAL and increase RMW flow.
- 3) Increase boric acid flow as necessary.

IF VCT level can NOT be restored, THEN go to Step 19.



EOP: ECA-0.1	TITLE: LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED	REV: 12 PAGE 16 of 20
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
18	Check Charging Pump Suction Aligned To VCT:	
a.	VCT level - GREATER THAN 20%	a. <u>IF</u> VCT level can <u>NOT</u> be maintained greater than 5%, <u>THEN</u> perform the following:  1) Ensure charging pump suction aligned to RWST:  o LCV-112B open  o LCV-112C closed  2) Continue with Step 19. <u>WHEN</u> VCT level greater than 40%, <u>THEN</u> do Step 18b.
b.	Verify charging pumps aligned to VCT  o LCV-112C - OPEN  o LCV-112B - CLOSED	b. Manually align valves as necessary.
19	Control PRZR Level:	
a.	Check letdown - IN SERVICE	a. Stop and start charging pumps as necessary to control PRZR level.
b.	Maintain PRZR level between 13% [40% adverse CNMT] and 50%	

EOP: ECA-0.1	TITLE: LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED	REV: 12 PAGE 17 of 20
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
<p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>o If auxiliary spray is in use, spray flow may be increased by closing normal charging valve AOV-294 and normal PRZR spray valves.</li> <li>o When using a PRZR PORV select one with an operable block valve.</li> </ul>		
20	<p>Establish PRZR Pressure Control:</p> <ul style="list-style-type: none"> <li>a. Check letdown - IN SERVICE</li> <li>b. Use PRZR heaters and auxiliary spray valve (AOV-296) to maintain RCS pressure</li> </ul>	<p>a. Perform the following:</p> <ul style="list-style-type: none"> <li>1) Use PRZR heaters and one PRZR PORV to maintain RCS pressure.</li> <li>IF IA <u>NOT</u> available, <u>THEN</u> Refer to Attachment N2 PORVS to operate PORV.</li> <li>2) Go to Step 21.</li> </ul>
21	<p>Verify Natural Circulation:</p> <ul style="list-style-type: none"> <li>o RCS subcooling based on core exit T/Cs - GREATER THAN 0°F USING FIGURE MIN SUBCOOLING</li> <li>o S/G pressures - STABLE OR DECREASING</li> <li>o RCS hot leg temperatures - STABLE OR DECREASING</li> <li>o Core exit T/Cs - STABLE OR DECREASING</li> <li>o RCS cold leg temperatures - AT SATURATION TEMPERATURE FOR S/G PRESSURE</li> </ul>	<p>Increase dumping steam from intact S/Gs.</p>

EOP: ECA-0.1	TITLE: LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED	REV: 12 PAGE 18 of 20
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
<p><u>NOTE:</u> Adverse CNMT conditions or loss of forced air cooling may result in failure of NIS detectors.</p>		
22	Check If Source Range Detectors Should Be Energized:	
a.	Source range channels - DEENERGIZED	a. Go to Step 22e.
b.	Check intermediate range flux - EITHER CHANNEL LESS THAN 10 <sup>-10</sup> AMPS	b. Perform the following: <ul style="list-style-type: none"> <li>1) <u>IF</u> neither intermediate range channel is decreasing <u>THEN</u> initiate boration.</li> <li>2) Continue with Step 23. <u>WHEN</u> flux is LESS THAN 10<sup>-10</sup> amps on any operable channel, <u>THEN</u> do Steps 22c through e.</li> </ul>
c.	Check the following: <ul style="list-style-type: none"> <li>o Both intermediate range channels - LESS THAN 10<sup>-10</sup> AMPS</li> </ul> <p>-OR-</p> <ul style="list-style-type: none"> <li>o Greater than 20 minutes since reactor trip</li> </ul>	c. Continue with Step 23. <u>WHEN</u> either condition met, <u>THEN</u> do Steps 22d and e.
d.	Verify source range detectors - ENERGIZED	d. Manually energize source range detectors by depressing P-6 permissive defeat pushbuttons (2 of 2). <p><u>IF</u> source ranges can <u>NOT</u> be restored, <u>THEN</u> refer to ER-NIS.1, SR MALFUNCTION and go to Step 23.</p>
e.	Transfer Rk-45 recorder to one source range and one intermediate range channel	

EOP: ECA-0.1	TITLE: LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED	REV: 12 PAGE 19 of 20
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
23	Verify Adequate Shutdown Margin:	
	a. Direct RP to sample RCS and PRZR liquid for boron concentration	
	b. Verify boron concentration - GREATER THAN REQUIREMENTS OF FIGURE SDM	b. Borate as necessary.
24	Maintain Stable Plant Conditions	
	a. RCS pressure - STABLE	a. Control PRZR heaters and auxiliary spray if available.
	b. RCS temperature - STABLE	b. Control dumping steam as necessary.
	c. PRZR level - BETWEEN 13% [40% adverse CNMT] and 50%	c. Control charging as necessary.
	d. Intact S/G level - BETWEEN 17% [25% adverse CNMT] and 52%	d. Control S/G feed flow as necessary.
*25	Monitor SI Initiation Criteria:	
	a. RCS subcooling based on core exit T/Cs - GREATER THAN 0°F USING FIGURE MIN SUBCOOLING	a. Go to ECA-0.2, LOSS OF ALL AC POWER RECOVERY WITH SI REQUIRED, Step 1.
	b. PRZR level - GREATER THAN 5% [30% adverse CNMT]	b. Control charging flow to maintain PRZR level.
		IF PRZR level can NOT be maintained, THEN go to ECA-0.2, LOSS OF ALL AC POWER RECOVERY WITH SI REQUIRED, Step 1.

EOP: ECA-0.1	TITLE: LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED	REV: 12 PAGE 20 of 20
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
26	Try To Restore Offsite Power To All AC Busses (Refer to ER-ELEC.1, RESTORATION OF OFFSITE POWER)	Maintain plant condition stable using AC emergency power.
27	Determine If Natural Circulation Cooldown Is Required:	
	a. Consult plant staff to determine if RCS cooldown is necessary	a. <u>IF</u> cooldown <u>NOT</u> required, <u>THEN</u> go to O-3, HOT SHUTDOWN WITH XENON PRESENT.
	b. At least one RCP - OPERABLE	b. Go to ES-0.2, NATURAL CIRCULATION COOLDOWN.
	c. Go to O-2.2, PLANT SHUTDOWN FROM HOT SHUTDOWN TO COLD SHUTDOWN	
-END-		

EOP: . ECA-0.1	TITLE: LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED	REV: 12 PAGE 1 of 1
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ECA-0.1 APPENDIX LIST

<u>TITLE</u>	<u>PAGES</u>
1) FIGURE MIN SUBCOOLING	1
2) FIGURE SDM	1
3) ATTACHMENT SD-1	1
4) ATTACHMENT SD-2	1
5) ATTACHMENT N2 PORVS	1
6) ATTACHMENT SEAL COOLING	2
7) ATTACHMENT AUX BLDG SW	1



EOP:

ECA-0.1

TITLE:

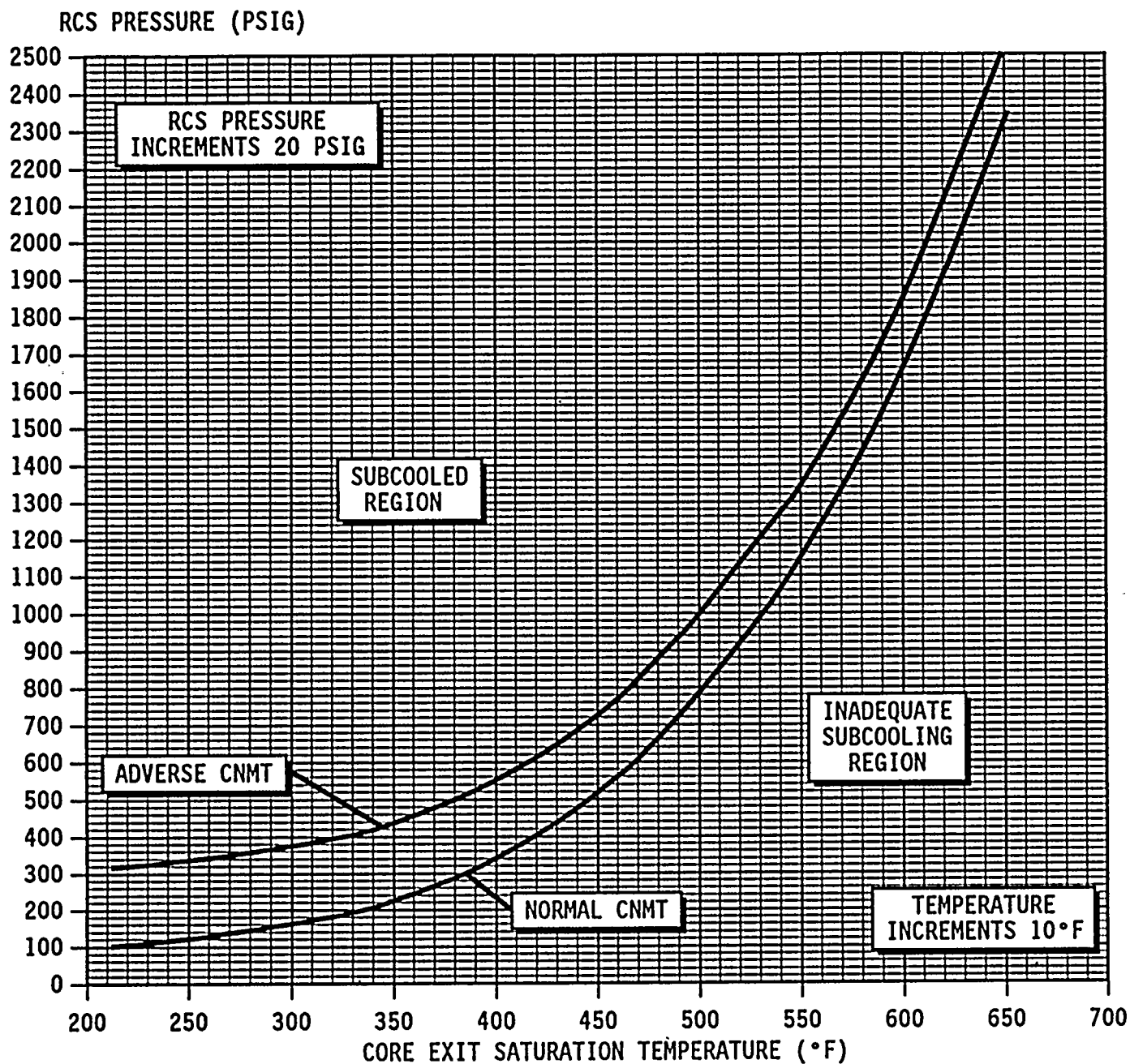
LOSS OF ALL AC POWER RECOVERY WITHOUT SI  
REQUIRED

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FIGURE MIN SUBCOOLING

NOTE: Subcooling Margin = Saturation Temperature From Figure  
Below [-] Core Exit T/C Indication





EOP:

ECA-0.1

TITLE:

LOSS OF ALL AC POWER RECOVERY WITHOUT SI  
REQUIRED

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FIGURE SDM

NOTE:   o Curve includes allowance for one stuck rod. Add  
          100 ppm for each additional stuck rod.  
          o To obtain core burnup, use PPCS point ID BURNUP.

